

### Remarks

Prior to this Amendment, claims 1-59 are pending in the application. Claims 1-59 stand rejected according to the Office action dated July 11, 2003. By this Amendment, Applicants are amending claims 1-5, 10, 11, 13, 15, 17-19, 23-25, 29, 35-37, 41, and 42; and adding claims 60-63. Reexamination and reconsideration of claims 1-63 in view of the amendments and remarks contained herein are respectfully requested.

Independent claims 1, 15, 23, 41, and 42 are amended to better clarify the recited physiological patient data as discussed during the Examiner's Interview, which is summarized on page 10 of this paper.

Claims 2-5, 10, 11, 13, 17-19, 24, 25, 29, and 35-37 are amended to correct minor informalities.

Claims 1-59 are rejected under 35 U.S.C. § 102 (e) as being anticipated by United States Patent No. 6,558,325 ("Pang").

Amended claim 1 of the present application specifies a method of displaying physiological patient data from a cyclic physiological waveform including, among other things:

- acquiring physiological patient data from the cyclic physiological waveform; and
- displaying the physiological patient data in a three dimensional representation.

Amended claim 15 of the present application specifies a method of displaying physiological patient data from a cyclic physiological waveform including, among other things:

- acquiring physiological patient data from the cyclic physiological waveform; and
- displaying the physiological patient data in a three dimensional representation.

Amended claim 23 of the present application specifies an apparatus for displaying physiological patient data from a cyclic physiological waveform including, among other things:

- a processor for producing a three dimensional representation of physiological patient data from the cyclic physiological waveform.

Amended claim 41 of the present application specifies a software program for generating a display of physiological patient data from a cyclic physiological waveform including, among other things:

- a program module for acquiring physiological patient data from the cyclic physiological waveform; and
- a program module for displaying a three dimensional representation of the physiological patient data.

Amended claim 42 of the present application specifies an apparatus for displaying physiological patient data from a cyclic physiological waveform including, among other things:

- a means for producing a three dimensional representation of physiological patient data from the cyclic physiological waveform.

As discussed with Examiner Tram and Supervisor Bella in the telephone interview on September 8, 2003, Pang does not disclose, among other things, the display of physiological patient data from the cyclic physiological waveform in a three dimensional representation. Instead, Pang discloses the display of an ultrasound image that is made up of ultrasound data. Although the acquisition of the ultrasound data is triggered using respective phases of a cyclic physiological waveform, the ultrasound image that is displayed does not include physiological patient data from a cyclic physiological waveform. Ultrasound data is not physiological patient data from a cyclic physiological waveform. In short, Pang fails to teach, describe, or suggest the subject matter related to a three dimensional representation of physiological patient data from a cyclic physiological waveform as specified in claims 1, 15, 23, 41 and 42. The Applicants respectfully submit that claims 1, 15, 23, 41 and 42 are novel and patentable over Trautman.

Claims 2-14 and 60-61; claims 16-22; claims 24-40 and 62; and claims 43-59 and 63 ultimately depend upon claims 1, 15, 23, and 42, respectively, and are therefore allowable for the reasons set forth above with respect to claims 1, 15, 23, and 42. Therefore, claims 2-14 and 60-61; claims 16-22; claims 24-40 and 62; and claims 43-59 and 63 are allowable. Additionally, claims 2-14 and 60-61; claims 16-22; claims 24-40 and 62; and claims 43-59 and 63 specify additional limitations that, in combination with claims 1, 15, 23, and 42, respectively, are

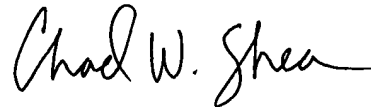
believed to be inventive. Examples of the additional inventive limitations include: displaying electrocardiogram data in a three dimensional representation (claims 2 and 16); displaying blood pressure data in a three dimensional representation (claims 3 and 17); displaying cardiac output data in a three dimensional representation (claims 4 and 18); displaying pulse oximetry data in a three dimensional representation (claims 5 and 19); storing the physiological data in a memory array (claims 6, 29, and 48) such as a waveform array (claims 7, 20, 30, and 49); parsing the physiological data into a series of waveforms (claims 8, 37, and 56) such as median waveforms (claims 9, 21, 38, and 57); plotting the parsed waveforms in a temporal alignment to allow detection of long term trends in physiological data (claim 10); assigning a representative X coordinate, Y coordinate, and Z coordinate, to each data point and plotting each data point on the display to produce a three dimensional representation (claim 11); parsing the data points into a series of median waveforms and plotting the waveforms in a temporal alignment (claim 12); color-coding the amplitude values of the data points in the relevant range (claim 13) such as +0.5 mV to 0.5 mV (claims 14 and 22); using a patient monitor device as the source of physiological patient data (claims 23-27, and 43-46); using a memory device connected to the processor (claim 28); using a black and white display capable of displaying/generating shades of gray in between black and white (claims 31 and 50); using a color display (claims 32 and 51); using a display having a plurality of pixels for displaying the respective coordinates (claims 33 and 52); using software for animation and walk through of three dimensional representations (claim 34); using software to receive the physiological data (claim 35); using software to parse the physiological data (claim 36); using software to generate a waveform display on the display (claim 39) such that the waveform display places the data points at respective pixels on the display (claim 40); storing the physiological data (claim 47); animating the three dimensional representation for analysis of the three dimensional representation (claim 53); receiving physiological data (claim 54); parsing the physiological data (claim 55); generating a waveform display on the display (claim 58); placing the data points at respective pixels on the display (claim 59); the amplitude of the physiological patient data relates to an amplitude of the cyclic physiological waveform (claim 60), the amplitude of the physiological patient data is an amplitude of the cyclic physiological waveform (claim 61); and the cyclic physiological waveform represents the physiological parameter (claim 62 and 63). Claims 2-14 and 60-61; claims 16-22; claims 24-40 and 62; and claims 43-59 and 63 are therefore allowable

In view of the above amendments and remarks it is submitted that the claims are patentably distinct over Pang, that all rejections to the claims have been overcome, and that the application is in condition for allowance. Entry of this Amendment is therefore respectfully requested.

Applicants direct the Examiner's attention to the Information Disclosure Statement filed June 26, 2003 with respect to the above-referenced application. An initialed copy of the submitted form PTO-1449 was not received with the Office action dated July 11, 2003. Applicants request that the Examiner provide an initial copy of the submitted form PTO-1449 as to ensure the Examiner has reviewed the cited reference.

If any issues remain outstanding following entry of the above amendments, the Examiner is invited to contact the undersigned Applicants' Representative at (262) 956-6525 to discuss the claims further.

Respectfully submitted,



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